

### REMARKS

Claims 1, 4, 5 and 23-25 are under examination. The claims have been amended as applicable to clarify that the complementarity recited is over the full length of the sequence. No new matter has been added. Reconsideration is requested.

Claims 1, 4, 5 and 23-25 are newly rejected under 35 USC § 101 because the Examiner considers that the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility. This rejection is traversed for the following reasons.

Applicants have shown that the claimed sequences show preferential expression in mouse fetal and adult hematopoietic progenitors and mature blood cells. Applicants have also cloned homozygous and heterozygous "knockout" mice to elucidate the function of the sequences. In particular, paragraphs 8 and 9 of the specification describe a variety of uses for the sequences, including the detection of hematological malignancies, and the diagnosis of neurological disorders such as Amyotrophic Lateral Sclerosis. Applicants respectfully submit that the utility of the claimed sequences will be clear to those of skill in the art. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1 and 4 stand rejected under 35 USC §112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention at the time the application was filed. It continues to be the Examiner's position that only SEQ

ID NO:1 and sequences that encode an identical protein product meet the written description requirement. This rejection is respectfully traversed.

Applicants respectfully submit that claim 1 and claim 4, dependent therefrom, clearly meet the written description requirement. The scope of the amended claim includes only those nucleic acid sequences that are 98 or 99% identical to SEQ ID NO:1, or are complementary thereto, or encode an identical polypeptide product. It is respectfully submitted that the number of such sequences is finite, and that the description provided in the specification is sufficient that the included subject matter will be known to those of skill in the art. The Examiner continues to hold the position that Applicants have not shown which sequences that have been altered by 2% or less will retain the function of the protein encoded by SEQ ID NO:1. It is respectfully submitted that it will be evident to persons of skill in the art from the human and zebrafish sequences, which have much less identity than 2%, that sequences with the claimed similarity are very likely to retain function. Such sequences can be tested by cloning, for example, as illustrated in the specification. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1 and 4 also stand rejected under 35 USC §112, first paragraph, as containing subject matter that is not enabled. It is the Examiner's view that the claims are overly broad, and that only SEQ ID NO:1 and sequences that encode an identical protein product are enabled. This rejection is respectfully traversed.

It is respectfully submitted that the number of such sequences is finite, and that they can be made and used without undue experimentation by persons of skill in the art. As detailed above, such sequences would be expected by persons of skill in the art to have

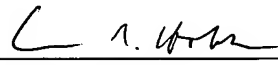
similar structure and function to SEQ ID NO:1, as the related human and zebrafish sequences have less identity than that which is presently claimed. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1, 4, 5 and 24 stand rejected under 35 USC § 102(b) as being anticipated by Isomura. It is the Examiner's position that Isomura teaches a nucleic acid that is complementary to nucleotides 2058-2082 of SEQ ID NO:1. Claims 1, 4, 5 and 24 have been amended to make clear that the complementarity is over the full length of the claimed sequence. Withdrawal of the rejection is respectfully requested.

All objections and rejections having been addressed, it is respectfully submitted that this application is in condition for allowance, and Notice to that effect is respectfully requested. If any issues remain in the application that might be resolved by a telephone discussion, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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